Palestine Institute
of
Pacific School of Religion

BRITISH SCHOOL OF ARCHAEOLOGY IN JERUSALEM

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INTRODUCTION.—Excavations at Tanturah proving to be impossible this Spring, certain caves of Galilee were selected for the practical work of the School. Mr. F. Turville-Petre was placed in charge, with the collaboration of Mr. FitzGerald. When the latter left (to visit sites of excavation in Tripoli), Mrs. Baynes, who joined the School this Spring, assisted zealously in the daily routine, and the party was joined towards the end by Mr. Crouther-Gordon, from the University of Glasgow. The whole cost of the work was borne by the Hon. Treasurer, Mr. Robert Mond. Two caves were excavated systematically, and they proved to have been occupied by stone-using man at different times. This result in itself enables a useful comparative study to be made, for the first time, of two well-defined Palaeolithic culture phases in Palestine. A crowning interest was added by the recovery of recognisable remains of primitive man in the second cave. A preliminary account of the excavation is given by Mr. Turville-Petre in this Bulletin, but owing to the exceptional importance of these discoveries, the Director proposes the issue of a Special Publication, in which Sir Arthur Keith has kindly promised his collaboration.

Meanwhile, Mr. Horsfield has been at work among the classical buildings of Jerash (Geraza), in Trans-Jordania, where he has been entrusted with the conservation of these monuments. His preparations are now completed, notwithstanding the difficulties of the situation, and the first results of his work have added striking features to the interest of the site. Mr. A. St. B. Harrison has kindly prepared a plan of the Southern Theatre, as now disclosed, which we publish in this Bulletin, together with his Notes.

Mr. FitzGerald, our senior student, who contributes to this Bulletin the concluding section of the Report on our excavations at Tanturah, 1924, has now accepted an invitation to be Assistant Director in the excavations at Beisan.

A special course of lectures on 'Muhammadan Architecture' has been delivered by Mr. A. Creswell.

The School has been visited this Spring, amongst others, by Mr. Robert Mond, Mr. Amery, M. Dussaud, M. Benedite, Mr. Green, Lord Balfour, Professor Roxby and Professor Fleure.

EXCAVATIONS AT TANTURAH, 1924

(Continued from Bulletin No. 6 with references to Plates I, II, III)

V.—The Pottery

It is to be regretted that no site yet excavated in Palestine has provided much information with regard to the Hellenistic period. The principal excavations, Lachish, Gezer, Ain Shems, Tell Sandahannah, Samaria, even where they yield abundance of Hellenistic pottery (as in the case of the two last named), do not reveal a system of undisturbed strata such as would enable us to follow the developments which took place between the fourth century B.C. and Roman times. Tanturah is, unfortunately, no exception to this rule, as far as concerns the areas 'H' and 'L,' excavated in 1924. The pottery is fragmentary in the extreme, unbroken pieces being almost unknown, and only in a few instances can any stratification be perceived. These may be summarised as follows:

A. In H, at course 2 down the main wall W2, floor level of a room. Immediately above this floor-level the pottery was mainly ribbed (though not all of the late Roman or Byzantine type) and included some cooking-pot wares and a rough drab ware bowl with flat base and inturned rim (diameter 8 cm.), a fragment of opaque glass and a piece of wall plaster with the exposed side coloured red. Under the floor were large quantities of plain red and buff fragments, mainly from large jars, some of which were of the elongated form, imitating the Rhodian, which (though not unknown even in the fifth century, see *Bull. Corr. Hell.* XXXIX, p. 181), 'did not come into fashion until about 300 B.C.' (Walters, *Hist. Anc. Pottery*, I, p. 155). With these were three fragments of black varnished ware, ring-bases, of which two are of light red ware (one showing traces of stamped palmette ornament, the other having the underside left in the natural colour of the clay) and the third is of grey ware; also two ribbed fragments, of which one may well be an early specimen, having six shallow ridges to 5 cm., and inclining to the saw-tooth form, (cf. Macalister, *Gezer*, II, p. 207) and the other merely shows two or three ridges, on the surface, subtending a plain jar-handle. A piece of wall-plaster (yellow) was also found.

From these data there is no more precise conclusion to be drawn than that this floor was laid down at some time after 300 B.C., and remained uncovered until a period when plain pottery had been succeeded in common use by the ribbed variety, i.e., probably not before the beginning of our era. In this connexion it may be worth pointing out that this floor lies at about the level of the aedicule, between it and the main wall W2.

B. In H, the level of the North Gate threshold, at course 8, and the subjacent strata afford some indications of date:—

(i) This threshold level, westward of the gate, consists of a very distinct layer of reddish sandstone gravel, a few inches deep, which apparently formed the surface of a way between the wall 'W1' and the peristyle wall. At about ten metres from the gate the capital and drums of a fallen Ionic column were only separated from this level by a foot or so of debris, in which were fragments of ribbed pottery of the sharply serrated (Roman ?) variety and a hoard of coins,[1] together with fragments of glass. The remainder of the surface was littered with sherds of various periods, and fragments of roof tiles which were especially numerous immediately S.W. of the gateway. In the gravel itself was imbedded the top of a Rhodian jar handle, measuring 8 cm. from the exterior angle to the junction with the neck, and bearing a stamp (33 mm. by 17 mm.) but no visible legend.

(ii) In the 'Gateway pit North,' immediately N.W. of the gateway and adjoining 'W1,' a level of black earth mixed with yellow sand and shells was found. In the intervening space were numerous fragments of pottery, including some decorated pieces, all of which appear to be of the Early Iron Age, 'Middle Palestinian' type. One of these is from a small bowl characteristic of the Philistine pottery of Ascalon (*P.E.F.Q.S.*, April, 1923, Plate II (12) and p. 71), of drab clay

1. This hoard includes coins of Alexander Severus (222-235 A.D.), which suggests the third century of our Era as the period of destruction. (*See* Bulletin No. 6, p. 73.)

with cream slip, two purple bands round the rim and a wavy line below. Another fragment of a carinated bowl with a minute groove at the shoulder is of greyish ware, with a plain red (wash) surface.

(iii) Below the last-mentioned layer (courses 9 and 10, to the bottom of W1) are more plain pieces of the same period, a fragment of drab ware with light red surface decorated with a band of three lines of darker red, and a piece of red ware with slight signs of pebble-burnishing. With these were two markedly different fragments, one the inturned rim of a bowl or plate covered with lustrous black varnish, the other of undulating ribbed ware of a presumably early type (seven ridges to 5 cm.).

(iv) Below the foundation level of W1 (course 10) the sherds in the soil immediately above the rock were all plain, and of a ware differing materially from that in the level above, being coarser, more full of white grits and generally black or brown in the middle of the section, and fired red only at the extreme surface.

WARES REPRESENTED

I. Early Iron Age Wares, i.e., those characteristic of the Early Palestinian or Middle Palestinian (pre-Hellenistic) periods.

(*a*) *Decorated.* Mention has already been made of the 'Philistine' bowl and the lentoid flask fragments found in H (courses[1] 9 and 10). Another fragment of Philistine character was an open jar-spout with a strainer, of light red ware with dark red bands along the top rim of the spout—(*P.E.F.Q.S.*, April, 1923, p. 72 and Pl. II, 15) found outside (East of) the North Gate (course 3).

Two other lentoid flasks were found in H (course 9 and third metre below platform level, respectively), and another in L, T5 (sub-wall course 1-3). The first is undecorated, of drab clay burning red; the second, of greyish ware with buff surface, has six concentric circles, orange, on one side; the third, of red ware with buff surface, has six circles in red paint. It has been noted that this form is rarely found in the Hellenistic period (*Gezer*, II, p. 216, cf. p. 199, and see Bliss and Dickie, *Exc. in Jerusalem*, 1894-7, p. 263).

In L, about 5 metres down, a fragment has its inner side red burnished, the exterior covered with white slip, a red band round the rim, and a red line below. At the same level a fragment of buff ware shows traces of a red band and black lines. At a slightly higher level a jar-rim (12 cm. diameter) of red ware with burnished surface has bands of black round the rim and neck.

In H (course 9) was the neck and upper part of a bottle of yellowish buff ware, of a common Cypriote Iron Age form, with black line decoration, concentric circles on the shoulder and a wavy band round the neck (Vincent, *Canaan*, p. 349, fig. 247).

(*b*) *Burnished.* Besides the burnished fragments above-mentioned, examples of ordinary Palestinian pebble-burnishing occur in the lower strata of L. In H (course 4) fragments of a flat-bottomed bowl or dish (diameter 30 cm.), of dark red ware showing white grits, has the interior covered with red wash, burnished at the sides. In H (course 5-7) a fragment of buff ware with brown and black wash shows irregular burnishing. With these may be compared a dish or baking-tray from Cut I (B1 upper), 30 cm. diameter, of brown ware pebble-burnished in horizontal lines both inside and out. Pattern-burnishing was the common method of decorating such vessels in the Early Iron Age, but is rarely found in the Hellenistic period. (Bliss and Macalister, *Exc. Pal.*, pp. 81 f., 105).

(*c*) *Plain* pieces of this period perhaps include two trefoil-mouthed, single-handled jugs with base-rings, of gritty grey ware burning red on the surface, one plain, the other having a buff slip on the exterior surface. One, unbroken, stands 25 cm. high, with base diameter 7·5 cm. These, and fragments of another like them, occur in the lowest strata of L, about 6 metres down.

1. The expression 'course,' used to define a particular level, signifies the level of a course of masonry in the main wall, W2, reckoning from the topmost course standing in H, downwards. The threshold of the North Gate, is at the bottom of course 8. Note that owing to the slope of the ground westward the reckoning by courses does not by itself indicate the distance of objects below the ground-level.

Other plain fragments in L are :

(*a*) Two attachments broken off jars, in the form of Y-shaped fillers, but without any orifice at the bottom. One of these was attached to the jar at the rim, the other is free-standing. These attachments, without the orifice, are found at Gezer in the ' Late Fourth Semitic ' strata (*Gezer*, II, p. 186), i.e., in strata of the period immediately preceding the Hellenistic, which we now call Early Iron Age II.

(*b*) The neck of a single-handled water-decanter (brown ware, dark red wash), resembling, except for a groove round the rim, those found in the tombs (other than tomb I) at Ain Shems (*P.E.F. Ann.*, 1912-13, p. 66), and

(*c*) The neck of a bulging bottle of light red ware with roughish surface, having one handle attached below the rim (cf. *Samaria*, I, p. 291, fig. 167, 7 and 8).

A few sherds of coarse, gritty ware are found in H, immediately under the west of the summit platform, among remains of mud brick ; and (at course 10), in the angle of W2 and the small retaining wall, immediately below a layer of much later wares, which include a large number of ribbed fragments.

In areas H and L about twelve ' Canaanite ' lamps were found of the flat-bottomed form with pinched-in spout and (except in two instances) a sharp angle at the junction of the rim with the body (*P.E.F. Ann.*, 1912-13, Pls. XXV, 7, 8, XXXIII, 1 ; *Samaria*, I, p. 293, fig. 171, p. 317). One, without a rim (from the lowest stratum of L) is of roughish red ware ; the remainder are of good drab ware, and may belong to the Hellenistic period, as lamps of this form are found in the Chatby cemetery and other Hellenistic cemeteries of Alexandria (Breccia, *Necr. di Sciatbi*, p. 76, Pl. LVII, 128-9, and cf. *Gezer*, III, Pl. CLXXXVII, 12).

In these areas no examples have yet occurred of the Jewish form on a high base (*P.E.F. Ann.*, 1912-13, pp. 58-65, Pl. XXXIII, 4), though one was found in Cut 1 (B1 lower—C1 upper).

II. Black Varnished and Glazed Wares :

(*a*) Attic red-figure ware is represented in H and L only by seven fragments. The majority seem to belong to the end of the fifth century. From L (second metre) comes the neck of a crater of brownish varnish with the common laurel leaf decoration (cf. *Fouilles de Delphes*, V (Perdrizet), pp. 168 ff., fig. 710, 710*b* ; *Brit. Mus. Vase Cat.*, IV, pp. 27 ff. ; Tillyard, *The Hope Vases*, Pls. 23 to 27). Many vases of this type have accessory decoration in white, and this is found on a small fragment from H (course 2). These, with a fragment of careless style from H (courses 5-6) bring us down to the beginning of the fourth century. In this category ought, perhaps, to be included a fragment (from L, course 4) of a jug varnished black to brownish-red below, having the upper part painted with red criss-cross lines on the natural (pink) colour of the clay. For examples of reticulated ornament see Furtwängler, *Aegina*, p. 463, fig. 392, Breccia, op. cit., p. 62, no. 158 and Pl. LII (100), Watzinger, *Holzsarkophage*, p. 9, fig. 19, and Pagenstecher, *Sieglin Expedn.*, II, Part 3, pp. 185-6, Pl. XI (3).

(*b*) Fragments of small vases entirely covered with black varnish are exceedingly common. Of these a considerable number are doubtless imported from Attica and must be dated to the fifth century or the first half of the fourth. They can be recognised by the pink clay and lustrous varnish ; a characteristic of many of the earlier specimens is the careful treatment of the underside of the foot, left in the natural colour of the clay and often decorated with one or more concentric circles in black or red (see Wiegand-Schrader, *Priene*, p. 395, *Bull. Corr. Hell.*, XXXIX, p. 181). In some cases reserved bands of light red mark the transition from the R.F. technique to the undecorated varnished ware, which is characterised by forms imitating metal and which (carrying on an older tradition) held sway throughout the fourth century, first in Athens and later in other centres of manufacture. (F. Courby, *Vases grecs à reliefs*, pp. 174, 178.) In the form of the handles, the horse-shoe horizontal handle of the earlier period seems gradually to be superseded by the ' spurred ' handle, set on vertically and having the thumb piece flush with the rim of the vase. This form occurs in Boeotia, perhaps before 350 B.C. (Ure, *Black Glaze Pottery from Rhitsona*, Pl. XII), and appears to become common in the second half of the fourth century (*ibid.*, p. 23, Pl. XVII, cf. Pls. XV, XVI). It is found frequently in the Chatby cemetery (Breccia, op. cit., Pl. LIV) and elsewhere, in the late fourth and third centuries (see *Fouilles de Delphes*, V, p. 172, figs. 716, 717, 722 ; Watzinger, *Ath. Mitt.*, XXVI, p. 77). At Tanturah the spurred handles are represented by three specimens of inferior black glaze and two of red glaze or wash.

(*c*) Black varnished ware with stamped ornament is of common occurrence, intersecting circles and palmettes forming the principal elements of decoration. Specimens thus ornamented are not unknown in the fifth and even sixth century B.C. (Courby, op. cit., p. 176), and at Tanturah the stamped decoration is sometimes combined with the reserved bands and other characteristics of the Attic imports of *c.* 400 B.C. (so also at Pergamum, Conze, *Kleinfunde*, p. 16, and in Thrace, Necropole d'Eleonte, *Bull. Corr. Hell.*, XXXIX, pp. 135 ff.). In at least one case (boundary of H and L, under surface) the Attic technique in the treatment of the foot is found upon a black-varnished fragment of *drab* clay. The vogue of this stamped pottery, rising in Greece with the decline of the R.F. technique (Orsi, *Mon. Ant.*, XIV (1904), col. 912 ff. and cf., Ure, op. cit., p. 33, and *Fouilles de Delphes*, V, p. 165), continues, at any rate, in Asia Minor through the fourth and third centuries (*Priene*, pp. 395 ff. (Zahn); Conze, *Pergamon*, I, p. 269). It is common in the Abusir cemetery (Watzinger, *Holzsark*, p. 10) and at Alexandria (Breccia, op. cit., pp. 68 f., nos. 183-188, pp. 71 ff., nos. 196-200 and 207, Pagenstecher-Sieglin, op. cit., pp. 20, 29 (fig. 35) and 240). Before the end of the fourth century Attica had been superseded by other centres of manufacture and the lustrous black stamped ware is not necessarily Attic (Courby, op. cit., p. 178). As far as concerns the areas excavated at Tanturah, the stamped pottery does not reach the same degree of degeneration as the undecorated ware, upon which an inferior black glaze, or wash, takes the place of the Greek varnish.

(*d*) Of black ware with Painted Decoration only a few fragments were found :

(i) In H (W. slope, course 9), a vase of pink clay, the interior covered with red wash, the exterior with dull black glaze ; a band of ivy running round the shoulder has the leaves painted yellowish pink, the stalk indicated by incised lines showing the pink clay. Above (at the angle of the neck) and below run two small grooves. This arrangement is precisely paralleled in a cantharus from Athens (Watz., *Ath. Mitt.*, XXVI, p. 69 (no. 4), Pl. IV), dating from about 300 B.C., one of the series from the Western slope of the Acropolis, the majority of which are of inferior glaze (Watz., op cit., p. 84). Vases of this type have been found in many widely distant places, including Alexandria (cf. *Arch. Anz.*, 1902, coll. 157-8, and Pagenstecher-Sieglin, op. cit., p. 27 (fig. 34, 24), and p. 54, for examples of incised lines used to represent the stalks of wreaths) ; the evidence, however, seems on the whole to indicate an Attic origin (Courby, op. cit., pp. 186 ff.).

(ii) In L, a plate, diameter 21 cm., of pink clay, plain on the under-side, the interior of dull black glaze, with a conventional wreath in thin white paint.

(iii) A fragment of a bowl or plate of drab ware, with lustreless black glaze (like the preceding) inside and out, has traces of painted decoration (a row of white dots joined by an incised line).[1]

With these may be grouped :—

(iv) From Cut 1 (B1 upper), the neck and shoulder of an oenochoe or cantharus of light red ware, the interior covered with reddish-brown glaze, the exterior with lustrous black varnish (not of the best quality) ; the body fluted, the neck decorated with a conventional wreath in opaque light red paint.

Vases with this form of decoration are common in the Chatby cemetery (Breccia, op. cit., pp. 50 f. and 64 f., Pls. XLIX, L and LIII), the majority of them retaining traces of the gilding which covered the paint of the wreath. They are probably imported from Athens (Courby, op. cit., pp. 187, 194). Two more fragments in Cut 1 (B2 upper) show traces of pink and white paint respectively.

(*e*) *Later Black-glaze Wares.* From the evidence of the painted vases dating from the beginning of the third century, it appears that the lustrous varnish of the previous centuries was giving way to an inferior glaze. The continuance of this process is very noticeable in the undecorated fragments. As at Samaria, so here, the pink clay of the imported vases gives way to drab or grey wares and the lustrous varnish to a dull glaze or wash. Many of the later pieces are mottled reddish or brown, some are uniformly of a dirty brown colour. In a number of instances the black wash does not cover the whole vase, sometimes the whole, more often a part of the exterior of a bowl or plate is left plain (cf. *Samaria*, I, p. 299, fig. 174, 48-50, and Breccia, op. cit., p. 61, no. 152). Occasionally the part so left has a smooth, almost soapy, surface, due apparently to the use of a thin colourless glaze.

1. Pottery decorated with white paint on black has been found at Sparta in Hellenistic burials dated by Wace and Dickins to the second century B.C. or even later (*B.S.A.*, XIII, pp. 167 f.), but in view of the reburials in the tombs in question, conclusions as to the absolute dating of the objects found seem somewhat precarious.

To sum up, the formula 'importation, imitation, degeneration' fairly describes the history of those wares in Palestine for the two or three centuries following 400 B.C.

III. Red Glazed Wares. These have a more complicated history in the Hellenistic period than the black, nor is it easy, in the absence of stratified sites, to distinguish the characteristics of various periods or places of origin, until we come to the imported Arretine pottery of the first century B.C. In our areas H and L, two varieties are very commonly found, especially (but not exclusively) in the higher levels: (i) fine buff clay with a good red glaze, lighter and less coralline than the Arretine and inferior to it, in that the red surface shows a marked tendency to become detached from the ware, peeling off in small patches or flakes and exposing the natural colour of the clay. This is, doubtless, the same pottery as that which at Samaria was 'in use during the second century, B.C. if not earlier' (*Sam.*, I, p. 304). The common forms are much the same in both sites, platters (one of 26 cm. diameter) predominating. Of these some have stamped patterns like the above-mentioned black glazed ware, II(*c*). Exceptional forms are the rim of a trefoil mouthed jug (oenochoe ?) with a flat handle, and the neck and shoulder of a jug or bottle with a double handle (cf. Pagenstecher-Sieglin, op. cit., fig. 161, 42); (ii) a duller glaze or wash resembling in everything but colour the surface of the late black wares, II(*e*). In one instance (H, course 4-5) a large platter with black interior has the under-side of brownish red, and the same is found on the interior of some black-glazed bowls, perhaps denoting the period of transition from black to red (Pagenstecher-Sieglin, op. cit., p. 143, and fig. 150). Less common is (iii) a darker red slip or glaze, not inclined to peel off, through which, in several instances, appear traces of the wheel in the form of fine parallel lines, bearing a deceptive resemblance to the burnished patterns of the Early Iron Age. (iv) Three or four fragments of imported Arretine ware (of the first century B.C.) were also noted.

As the presence of red ware is too frequently regarded as an indication of late date, it is worth while pointing out that in the Chatby cemetery (late fourth and early third century B.C.) are found examples of stamped and other vases resembling the black varnished ware in clay, form and fabric, but having a more or less lustrous red surface (sometimes of orange or yellowish shade) (Breccia, op. cit., p. 68, nos. 185, 186, and pp. 74 ff., nos. 210-221). Examples of red ware of about the same date are also found in Greece (Watz., *Ath. Mitt.*, XXVI, pp. 73, 81, 85; and cf. *Fouilles de Delphes*, V, p. 172, fig. 716). Note also the red-surfaced fluted cantharus from Samaria (*Sam.*, I, p. 14, fig. 29). Red and black stamped wares are found together at Pergamum, which may be imported Attic but are more probably local pottery carrying on the same technique (Conze, *Perg.*, I, p. 269, and Beiblatt 35). The example of red ware there illustrated bears a striking resemblance to the pieces from Tanturah of our class (i), with red glaze flaking off. At Pergamum these can hardly be later than the early Attalid period, well before the close of the third century, though the evidence perhaps scarcely warrants the statement that by the middle of that century the black varnish had been entirely superseded by red glaze (Courby, op. cit., p. 177), as the inferior black-surface wares can hardly have disappeared so early. At Sparta, indeed, if the dating suggested in *B.S.A.*, XIII, p. 167, be accepted, the black-glazed ware continues far into the first century B.C. The evidence, however, is not conclusive, and there appears to be no solid reason to doubt the received opinion that, in Asia Minor and elsewhere, the change in fashion from black surface to red took place not later than the second half of the third century (Watz., *Ath. Mitt.*, XXVI, p. 2; Dragendorff, *Bonner Jahrb.*, XCVI, pp. 34 ff.; CI, p. 143). This seems to be in full accord with the evidence from Pergamum (*Perg.* I, p. 266; *Ath. Mitt.*, XXXVII, 1912, pp. 328 ff., and p. 245) with which that from Priene is in agreement (*Priene*, p. 397), as is also that from Alexandria (Pagenstecher-Sieglin, op. cit., p. 144). Nor does the evidence from Samaria, though inconclusive, seem to demand a later period for this movement (*Sam.*, I, p. 304).[1]

Asia Minor was, undoubtedly, a centre of manufacture of the various red glaze wares which preceded the Arretine (Courby, op. cit., p. 261; G. and A. Korte, *Gordion*, in *Jahrb. Erganzungsheft*, V, p. 195; Dragendorff, *Bonner Jahrb.*, CI, pp. 140 ff.), and in the neighbourhood of Pergamum *terra sigillata* was still manufactured in the first and second centuries of the Christian era (Loeschcke, *Ath. Mitt.*, XXXVII, 1912, pp. 344 ff.), but further investigation is required to decide whether the Palestinian wares are imported thence or from some other centre (such as

1. In the 'Report on the Excavation of the Eastern Hill of Jerusalem' in *P.E.F.Q.S.* January, 1925, p. 21, the inferior black and brown wares (a specimen of the latter decorated with white paint, Plate VII, fig. 20) are attributed to the 'Maccabaean' period (? latter half of second century). The evidence for this late dating is not stated. For the style of decoration, cf. the Hadra Vases of 267-244 B.C. (Pagenstecher, *Amer. Journ. Arch.* XIII, 1909, Plates IX, X).

Alexandria, as to which see Pagenstecher-Sieglin, op. cit., pp. 100 ff., 143 ff.) or are mainly of local manufacture. In any case it seems not improbable that, whereas the black ware degenerates from brilliant varnish to inferior glaze, the tendency of red-surface wares is in the opposite sense.

IV. Decoration in Relief. Bowls decorated with patterns or figures in relief, so common on some other Hellenistic sites, are represented in our areas only by small fragments. None of them is of the lustrous glazed ware characteristic of the so-called Megarian bowls.

(i) From the west of H (course 9) come two fragments of a bowl of grey ware thinly covered inside and out with dull black glaze or slip, closing inwards slightly at the rim. This is the common shape of bowls from Delos (Courby, op. cit., p. 365 and fig. 47 (2)). Under the plain rim (18 mm. deep) runs a band of meander pattern (10 mm.) (Courby, p. 379, fig. 76 (4)). Below this the exterior of the bowl is covered with a pattern of imbricated leaves, a common motive in this series of bowls (Courby, p. 375, Pl. XIII, 24). The interior is, of course, undecorated. This combination of motives is found on a fragment from Egypt in the Herold collection (Pagenstecher-Sieglin, op. cit., p. 68, fig. 80 (*a*)).

(ii) From L comes a bowl of the same form, 12 cm. diameter, of drab ware with dark red glaze. Under the lip (17 mm. deep) is a band of leaf pattern.

The difference in colour between these two fragments is not inconsistent with their being imported from Delos, nor is it any indication as to their relative dates (Courby, pp. 368 f.). This widely-exported class of bowls began to be manufactured about 250 B.C. and may have continued in use as late as 30 B.C. (Courby, p. 397).

(iii) From H (course 9), a fragment of a bowl (13 cm. diameter) of yellow ware, with brick-red lustreless glaze or slip, inside and out, showing faint parallel striations like the marks of the wheel. The lip is slightly everted, a form which characterises the Pergamene as well as the Megarian bowls (Courby, p. 404). Below the plain rim, 18 cm. deep, is a band or frieze of the flower pattern seen on the bowls from Samaria (*Sam.*, II, Pl. 72*b*). On the side of the bowl part of a dolphin can be distinguished.

This piece, akin to Pergamene or Arretine ware, is of doubtful origin, a number of local fabrics of relief bowls being known to have existed (Courby, pp. 413 ff.). Its date is not earlier than the second century.

(iv) From the surface of H, fragment of a bowl of grey ware covered with lustrous black glaze inside and out, having on the exterior a moulded figure of Eros (*c.* 45 mm. high) within a sort of niche, below which appears the top of an acanthus leaf. A few pieces of such ware are already known, which may come from Asia Minor or possibly from Alexandria (Courby, pp. 489 ff., Pl. IX, *g*, *h*, *i*).

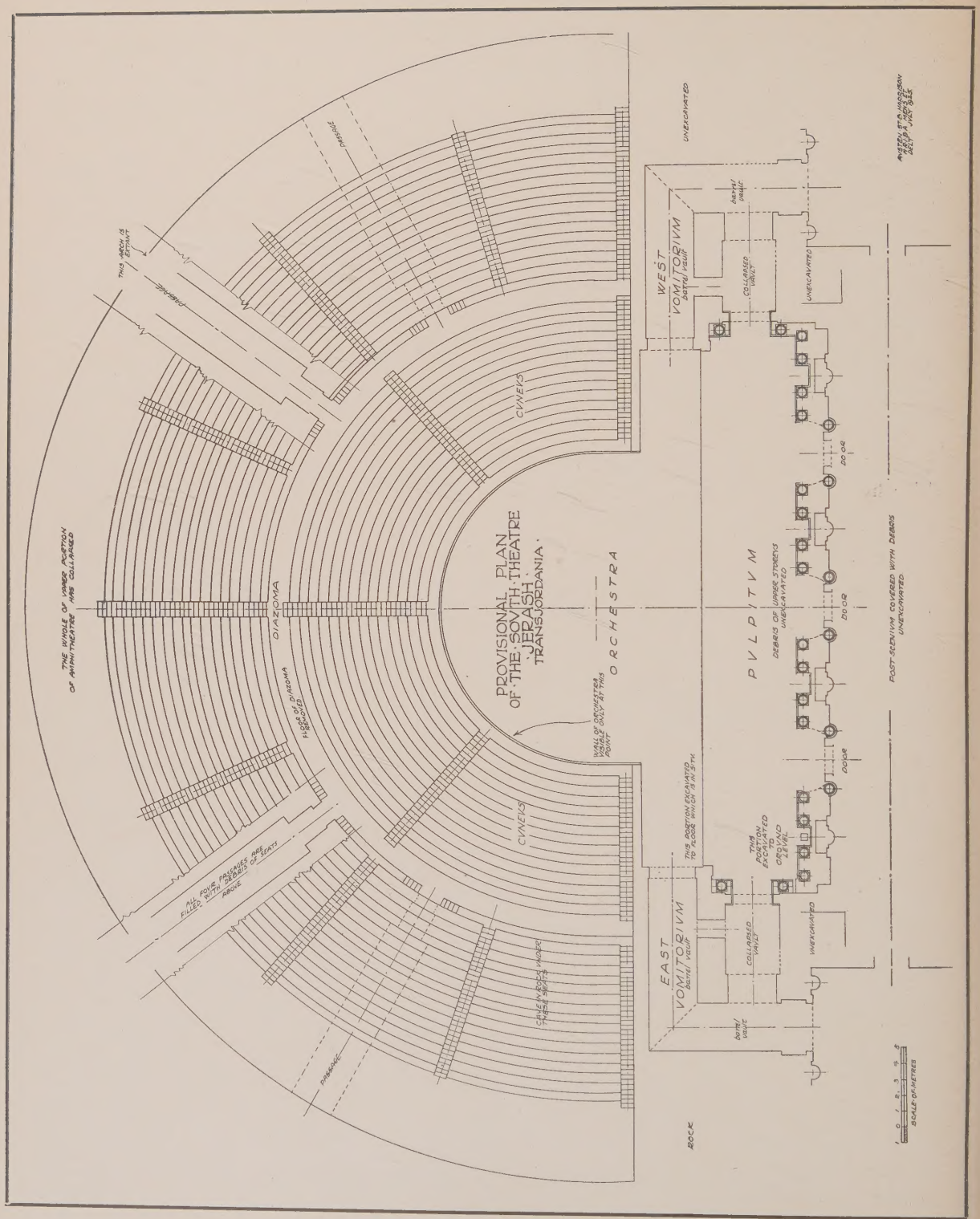
(v) From west of H (course 12), fragment of a straight-sided bowl or dish (diameter *c.* 26 cm.) of imported Arretine ware. The side (31 mm. high) has mouldings at top and bottom, and between them a figure of Eros. Another fragment, of approximately the same dimensions, from near by, shows no figure.

V. Painted Decoration on Light Ground. Owing to the absence of stratification we have no means of dating the score or so of fragments of the Hellenistic period decorated with bands of colour on a light ground. Bottles with painted band decoration occur at Delphi, in a tomb dated to about 400 B.C. (*Fouilles de Delphes*, V, p. 166, fig. 698), and, in the more elongated form (lacrymatoria) at Rhitsona, in the third century (Ure, op. cit., p. 22) ; they are found in Egypt in a late Ptolemaic or early Roman tomb (Grenfell, Hunt and Hogarth, *Fayûm Towns*, pp. 57, 59), at Priene (Wiegand-Schrader, *Priene*, p. 426, no. 102), and at Samaria, where it would seem that this form of decoration may have continued into the second century B.C. (*v. Sam.*, I, pp. 301 ff.).

At Tanturah we find only two fragments of this type of vase thus decorated : (i) drab ware, smooth cream surface, round the shoulder a red band between two brown.

(ii) Drab ware with red bands round the neck (the rest missing).

To these we might add (iii) (from H, course 7) a bottle neck of good buff ware with poor brownish red glaze, round the rim, and trickling down the neck (cf. late third-century pieces from Pergamum, *Ath. Mitt.*, XXXVII, 1912, p. 329), and (iv) (from H, course 8) a funnel-shaped neck of thick red ware with traces of a handle below which run dark red and black lines.



JERASH (GERAZA): SOUTHERN THEATRE. PROVISIONAL PLAN

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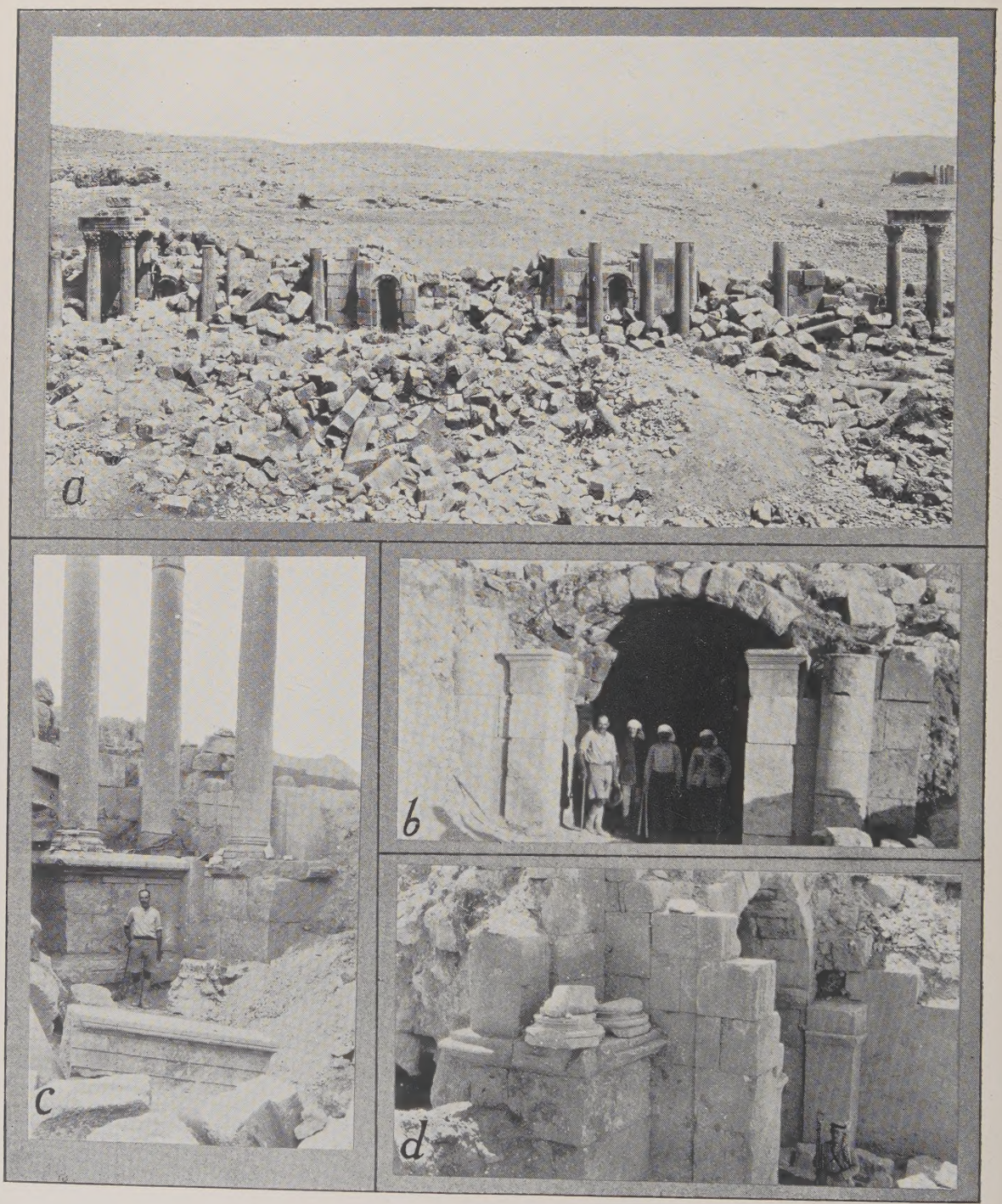
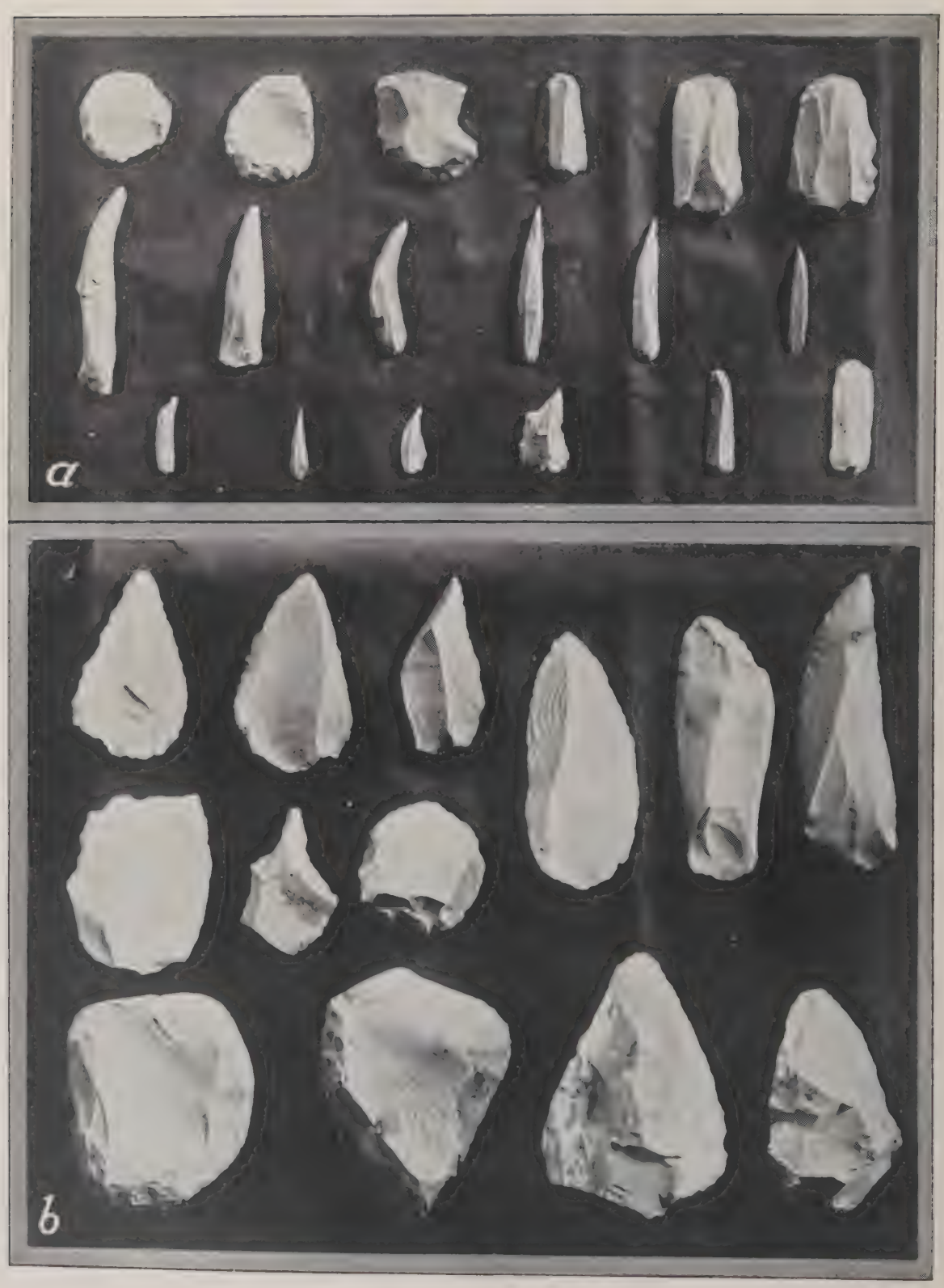


JERASH (GERAZA): SOUTHERN THEATRE.

(*a*) INTERIOR TOWARDS THE STAGE BEFORE CLEARANCE.
(*b*) WESTERN VOMITORIUM FROM OUTSIDE.
(*c*) STAGE, N.E. CORNER
(*d*) EASTERN VOMITORIUM AND STAGE ENTRANCE



WADY EL AMUD (GALILEE). TYPES OF FLINT IMPLEMENTS FROM TWO PALAEOLITHIC CAVES.
(*a*) EL EMIREH. (*b*) EL ZUTTIYEH

(*Scale : one half, nearly*)

WADY EL AMUD (GALILEE): PRIMITIVE HUMAN SKULL FRAGMENTS

(*a*) SIDE VIEW. (*b*) FRONT VIEW

VIEWS OF TWO PALAEOLITHIC CAVES NEAR TABGHA

(*a*) LE ZUTTIYEH, EXTERIOR (CAVE OF THE ROBBER CHIEF)

(*b*) *Ibid.*, INTERIOR DURING EXCAVATION

(*c*) THE WADY EL AMUD.

(*d*) EL EMIREH

A fragment with base-ring of grey ware burning red, with a light surface, has a purple band running round the upper part of the base. This may be akin to the stamnos decorated with dark red bands, from the Chatby cemetery (Breccia, op. cit., p. 83, no. 242, Pl. LVIII (130)). Another base of coarser red ware (possibly not Hellenistic) has bands of thin black wash, producing a brownish purple effect.

More noteworthy is a number of fragments (from Trench 3, courses 5 and 6) belonging to a jug or oenochoe of compact creamy ware with a smooth surface resembling glaze (but no slip), of ovoid form with a ring base. The neck and handle are missing, but the former was doubtless long and narrow. The decoration is in lustreless black pigment, turning brown, and consists of three bands round the body, a rudely indicated wreath round the base of the neck and, probably, a black streak up the outer side of the handle. The rounded outline and absence of slip distinguish this piece from the usual type of 'lagyni' (see G. Leroux, *Lagynus*). In form it resembles the jug from Panticapaeum, decorated in white paint (wreath) on a red surface, illustrated in *Bonner Jahrb.*, CI, p. 146 (fig. 12), and the examples from Alexandria, Melos and South Italy, illustrated in Pagenstecher-Sieglin, op. cit., figs. 36-39 (cf. pp. 30 ff., 52).

The remaining fragments in these areas are from vases or bowls of which the shape remains uncertain. The decoration, in the form of horizontal bands or rings, carries on in the Hellenistic period the tradition of late Palestinian ornament (see *Gezer*, II, pp. 208 f.), and at present it is only by a comparison of wares that the two periods can be distinguished. It seems, therefore, not unreasonable to assume that in Palestine this simple form of decoration continues uninterruptedly from one period to the other, and perhaps on into Roman Imperial times, as in Egypt (Grenfell, *Fayûm Towns*, pp. 59, 61, Pls. XI*a*, XIV*a*). On the subject generally, see Pottier, *Mon. Piot.*, XX, 1912, p. 163, pp. 178 f. The smooth surface, perhaps covered with colourless glaze, is fairly common in the Hellenistic fragments. The schemes of decoration are as follows: (*a*) creamy drab ware with red bands alternating with bands of black lines on the natural clay, (*b*) bowl of buff ware with broad red bands at rim and interior, the latter edged with a black line, (*c*) drab wares, red lines or bands (several examples), (*d*) buff and drab wares with black, brown or orange bands, (*e*) red ware with brownish bands, (*f*) light red common ware with darker exterior surface and black and white bands, (*g*) white surface with purple band and black lines (the last two examples possibly Palestinian), (*h*) light brown fragments with red or orange bands. Reticulated ornament is represented by a small fragment of very thin grey ware with a smooth red surface having on one side (the interior) a criss-cross pattern of darker red lines forming squares of about 2 mm., and a fragment of reddish ware with smooth exterior surface on which black and red lines cross.

VI. The Undecorated Wares which, of course, form the bulk of the pottery in our areas, call for little remark, owing to their extremely fragmentary condition and to the absence of stratification in this part of the site. Something must, however, be said of the principal forms and wares.

(i) *Jars* fall into two groups: (*a*) those which carry on the Palestinian tradition and have a hollow below the shoulder and the greatest diameter low down (cf. *Gezer*, II, p. 213). These are of red, brown or drab clay, often with white grits. (*b*) Elongated jars with more or less pointed bottoms, including examples of Rhodian amphorae of smooth buff ware, and other jars of good red ware with the same sort of prolongation at the bottom (said to be later than 300 B.C., Walters, *Hist. Anc. Pot.*, I, p. 155). Others of similar wares, though pointed, have not this prolongation; examples are found which terminate in a button-foot (cf. Breccia, op. cit., pp. 90 f.; Orsi, *Mon. Ant. Linc.*, XIV, col. 796, fig. 15; col. 861, fig. 69), and in one fragment of light red ware, the pointed jar bottom projects through a ring. The rims of such jars as have not merely plain necks are as a rule solid, and triangular in section. Of three stamped Rhodian handles, one (in H, course 8, already mentioned) is illegible, the others bear (each in two lines) the legends ΕΠΙ ΚΑΛΛΙ[ΑΝΑ]ΚΤΟΣ ΔΑΛΙ[ΟΥ] and ΕΠΙΡΑΤΟΦΑΝΕΥΣ ΠΑ[Ν]ΑΜΟΥ. The name of Aratophanes is known from Tell Sandahannah and elsewhere (*Exc. Pal.*, p. 132), but here the initial A seems to be omitted. Both names have been found in Alexandria (Pagenstecher-Sieglin, op. cit., p. 158 (74), and p. 164 (213)). An exceptional form of handle is set stirrup-wise on the shoulder of a jar, near the small turned-back rim (which is 9 cm. in diameter). Towards the rim the handle stands 11 cm. above the shoulder. The ware is light red, with white grits and a light smooth surface. A large jar in the Brit. Mus., from Egypt, has handles of the same shape. A large double handle of ware resembling Rhodian, or somewhat rougher, is from H (course 5-6).

(ii) *Cooking-pots* are, next to various forms of jars, the commonest form of undecorated pottery. For the form see *Samaria*, I, fig. 176, and cf. Grenfell . . ., *Fayûm Towns*,

Pl. XI*a*, XII (Ptolemaic period). There is some variety in the shape of the necks, some being more upright and others approaching the horizontal. The dark red, somewhat rough, and very brittle ware is characteristic; it is sometimes used for other forms (e.g., the neck and handle of a jug from the staircase in L). Cooking-pots are, of course, often ribbed. A pot or bowl of ordinary plain red ware with a horizontal rim recalls the shape of the square-shouldered cooking-pot, shown in *Samaria*, I, fig. 176 (3*a*).

(iii) Fragments of *amphorae* and single handled *jugs* were found, among which may be mentioned an amphora of red ware, drab surface, with grooved handles, like that in *Samaria*, I, p. 300, fig. 177 (9*a*), and a jug, of grey ware with dark red surface somewhat stouter but more refined than cooking-pot ware, with the handle attached to the rim (cf. *Gezer*, III, Pl. CLXXXI, 1(*a*)). A number of fragmentary base-rings were found on the site, from vessels of considerable size, jars, amphorae, etc.

(iv) Slender long-necked *bottles* (lacrymatoria), already mentioned in connexion with painted ware, are also found of plain ware, sometimes with a highly polished or glazed surface. For the form see *Samaria*, I, p. 301, fig. 178. At Jerusalem this shape is said to occur in association with 'Jewish' lamps, cooking-pots and lentoid flasks (Bliss and Dickie, *Exc. Jer.*, p. 261 f., Pl. XXV, 11). One fragment of good buff ware has a shorter stem and more pronounced base-ring.

Another form of small long-necked bottle has no base-ring, and increases in size towards the bottom. Bottles of this sort, somewhat resembling glass vessels, are found in a Roman grave at Priene and may date to about the beginning of our era (*Priene*, pp. 279, and 427, figs. 290 and 545).

(v) Among other small forms we may note a globular jug of very thin brittle grey ware with dark red surface, and with straight neck (6 cm. diameter) and one strap handle. Also a cup of rough drab ware with flat base and inturned rim (8 cm. diameter), saucers of plain open form, and one of buff ware 23 mm. high on a ring base (30 mm. diameter), with rim diameter of 73 mm. Another, with a double or flanged rim of 73 mm. diameter and a flat base (27 mm.), of drab ware burning red, may be a lid or stopper, as may a miniature pot 38 mm. high with rim diameter 33 mm. Among other fragments to be noted are lids with button handles (cf. Breccia, op. cit., Pl. LVIII, 131), examples of the double handle and twisted handle (cf. *Samaria*, I, p. 303, fig. 183, 21*a*, and *Gezer*, III, Pl. CLXXVIII, 3); as also the trefoil-mouth (7 cm. across) from a jug of thin red ware with drab surface.

(vi) A fragment which is unusual both in shape and fabric is the out-turned rim of a bowl (?) (diameter 23 cm.), having an upright flange with incised hatchings on its outer edge; the handle is broken off from the rim. The ware is grey, with a smooth black surface (slip) like bucchero.

(vii) The principal wares have already been noted in describing the forms. They range from compact creamy buff and light red, with smooth or glazed surface, to rough grey, brown, red or drab wares containing black or white grits. Intermediate are the common red and buff jars, etc., with clay which gives a metallic chink when struck, and the brittle cooking-pot ware already mentioned. These wares are, as might be expected, uniformly hard-baked and resistant to the action of water. The few fragments of very thin ware like that of the little globular jug above-mentioned, form a class apart. With regard to undecorated pottery generally, it may be well to bear in mind that the change from Hellenistic to typically 'Roman' forms does not occur, in Egypt, till the first century of our era (Grenfell . . ., *Fayûm Towns*, p. 58).

VII. Ribbed Pottery, together with fragments of roof-tiles, covered practically the whole surface of our areas, as is so commonly the case in Palestinian sites. Its occasional appearance at even the lowest levels has already been noted. The bulk of the surface layer must, no doubt, be assigned to the Roman and Byzantine periods, and no materials exist for an exact dating or classification. It must, however, not be forgotten that ribbed ware appears in Palestine in the Persian period, the types having a saw-tooth or gently undulating section being, as a rule, earlier than the sharp-edged, close-ribbed forms (see *Gezer*, II, p. 207). So also in Egypt ribbing is found in the Ptolemaic period (Grenfell . . ., *Fayûm Towns*, p. 58). The widest interval from ridge to ridge (apart from exceptional pieces) appears to be about one centimetre. We may note a roughly-made jug (15·5 cm. high, rim diameter 3·5 cm.) of drab ware with traces of red wash, having a single handle and button-foot. The ribbing shows 14 ridges to 10 centimetres.

VIII. Faience. A few fragments of green and yellow glazed ware occur in H and L. They are possibly Arab, but since they do not occur only near the surface (one is from H, course 5-6) it is as well to observe that the light green glaze, carrying on the Egyptian tradition, was in use in

Alexandria in the third century B.C. (Courby, op. cit., pp. 523, 527; Breccia, op. cit., p. 80, and cf. *Samaria*, I, p. 326 ff., *B.M. Cat. Roman Pottery*, Pagenstecher-Sieglin, op. cit., pp. 118 ff.).

Perhaps, also, of Egyptian origin are one or two fragments of frit which appear to have been covered with blue glaze. A piece of similar material is white, speckled with light green.

IX. Lamps. The presence of lamps of Canaanite (or 'Phoenician') form has already been alluded to. These are only a few of the lamps which, in a more or less fragmentary condition, are found all over areas H and L. The greater number represent the common forms of Greek, Hellenistic and Roman lamps found on other sites of the same period, such as Samaria and Delos. Finds from the latter site have been analysed by W. Deonna in *Bull. Corr. Hell.*, XXXII, pp. 133 ff.

(i) The earliest form is the deep, wheel-made, 'Greek' lamp of which a specimen covered with black glaze with angular shoulder, of the type illustrated in *Samaria*, I, p. 318 (B.I. 1*a*) comes from H, course 2-3. One of drab ware with red wash or glaze from East of the North Gate is of the type illustrated in *Samaria*, I, p. 319, fig. 189, II, 2*a*; another of the same fabric is from H (course 5-6). A black varnished fragment occurs near the surface of L. This deep form with black glaze or varnish is found at Delphi, *c.* 400 B.C. (*Fouilles de Delphes*, V, pp. 163, 184 f.) and at Alexandria, *c.* 300 B.C., together with red-glazed examples (Breccia, op. cit., pp. 76 ff., Pl. LVII). In one instance in the Chatby cemetery the nozzle widens out and has a bow-shaped end.

(ii) Circular wheel-made lamps of similar or somewhat flatter shape which have the nozzle ending in a bow (*Brit. Mus. Cat. Lamps*, Pl. XL, form 43) are fairly common. They are of good drab or reddish ware without glaze or varnish. One nozzle has a rough branch pattern incised upon it. These may be dated to the third century B.C. and the first half of the second. The contemporary wheel-made lamp with a long spout terminating in a circular nozzle (see *Bull. Corr. Hell.*, XXXII, pp. 143 ff.) has not been noted in our areas. Both these forms, however, are developed in the moulded lamps, which supersede the turned lamps about the middle of the second century B.C.

(iii) Moulded lamps with bowed nozzles persist into Roman times (*B.M. Cat.*, no. 506; and see Pl. XL, form 49). Specimens with incised decoration, resembling that of the later wheel-made sort, are presumably early (*Bull. Corr. Hell.*, XXXII, p. 146). One such, of grey ware with black slip with a lotus (?) leaf on the nozzle is from the W. of H (lowest level).

(iv) More common are the long-spouted lamps often with a palmette or other moulded pattern on the nozzle, and sometimes with an ear-shaped attachment at the side (*B.M. Cat.*, Pl. XL, 44, and no. 309; *Bull. Corr. Hell.*, XXXII, p. 146, fig. 10). One long-spouted fragment of grey ware with dark grey smooth surface, bearing traces of decoration on the body, resembles types illustrated in *Samaria*, I, p. 321, fig. 194, II, 1*a*, and in *Gezer*, III, Pl. CLXXXIII, 16.

(v) In the first century B.C. Hellenistic lamps are superseded by the Roman form with a volute on either side of the nozzle (Walters, *Hist. Anc. Pot.*, II, p. 400), which continue into the following century (*Bull. Corr. Hell.*, XXXII, p. 169, fig. 34). We may, therefore, attribute to about the beginning of our era the lamps of this form found at Tanturah. Among them is one from the upper level of H, with two volute nozzles, decoration of figures on the body and a triangular handle with palmette ornament (Walters, op. cit., Pl. LXIII). A similar handle with tree palmette and volute ornament was found near by. Both these examples are of reddish-drab ware with traces of brown glaze. From H (top metre) is a red ware handle of like shape, moulded in a manner which suggests crumpled linen. This may be somewhat earlier than the preceding (see *Samaria*, I, p. 320, fig. 191, I, 1*a*; see p. 76; *Gezer*, Pl. CLXXXIII, 9, 21; *Exc. Pal.*, Pl. 63, 5).

A lamp of dark grey ware, with a decoration of radiating lines on the body and a stamp Δ on the base, appears to have had volutes on the (broken) nozzle.

To the first century A.D. may also, perhaps, be attributed a multiple-spouted circular lamp of grey ware with black surface, the nozzles projecting outwards (*Bull. Corr. Hell.*, XXXII, p. 173, fig. 42).

(vi) The later Roman period is only represented by one lamp, though it is possible that some of the unrecognisable fragments found are contemporary with it. Of drab ware with red slip, it is of round form with a short nozzle, having an egg pattern running round the top and a sunk centre (broken). It may be of the second century A.D. No lamps of the Byzantine or later periods were observed.

X. Various Small Finds.

(*a*) Some thirteen small fragments of painted wall plaster or stucco were found scattered over these areas at various levels. The colours used are as follows: dark red; yellow; purple; brown; red and grey; red and light green; a band of red between dark blue and yellow stripes; brownish yellow with a blue stripe; yellow with dark blue and red bands; yellow, white and green bands with pattern (?) in red; green with grey and cream bands; red and green on white.

(*b*) Fragments of terra-cotta figures occur in H, course 5 (feet of seated figure), East of the North Gate, about course 5 (bust of female figure with low head-dress, and rough modelled figure of a man on a horse, both of drab clay with red surface), and in L, course 4 (lower part of seated (?) figure, perhaps Egyptian in character).

(*c*) Of bronze are (from H, course 5) fragments of a bowl (?) with horizontal loop-handle; a small ring or cylinder of 19 mm. diameter and 13 mm. in height (from S6, near surface), and an arrow-head (from L, second metre).

(*d*) Glass was found in every part of the area, and at various levels, but all in a completely fragmentary condition.

In conclusion, the writer would gratefully express his obligations to the authorities of the Greco-Roman department of the British Museum, for their kindness in identifying a number of pottery fragments submitted to them.

G. M. F.G.

NOTE ON SOUTHERN THEATRE, JERASH

With a Plan (Plate I) and Plate II

While the observations of more recent travellers in the Near East have rendered it impossible for us to share Mr. Bankes' opinion[1] that this theatre was, on the whole, the most perfect Roman theatre then remaining in the world, there is sufficient of it extant for us to appreciate the enthusiasm of his fellow-traveller, John Silk Buckingham, who thought it would have been 'an interesting task had he possessed the means and time to effect it, to have cleared away the whole of the rubbish down to the very pavement of the stage.'

This task is in part achieved. Three columns, the bases of which were hidden from Bankes and Buckingham now stand fully exposed together with that portion of the podium on which they rest (see Pl. II*c*). Moreover the vomitoria are cleared to their full height and a small portion of the circumscribing wall of the orchestra is exposed to floor-level.

The amphitheatre is divided by a single *diazoma*. That portion below the *diazoma* is divided into four *cunei* served by five staircases; that above into eight *cunei* served by nine staircases. Above the *diazoma* there are now sixteen (Schumacher[2], in 1905, counted seventeen) rows of seats and below the *diazoma* fourteen. The floor of the *diazoma* throughout is missing. Direct access to the *diazoma* from without was effected by four passageways now choked by the debris of fallen seats. Whether the amphiteatre at the top was surrounded by a colonnade cannot at the moment be ascertained, but the finding of a fallen monolithic shaft suggests the possibility.

The *Scena* was originally ornamented in the usual manner by superimposed orders. There were certainly two, possibly three, such orders, the debris of which now covers the stage. Of the twenty-six columns of the lowest order fourteen are *in situ* and the position of the remainder has been positively fixed. All that remains in position of the entablature are two pieces of architrave. Between each of the five doors giving access to the stage is a niche which appears to have been crowned by a curious form of pediment sustained presumably by colonettes.

The capacity of this theatre, not counting the seats on the orchestra floor, must have been approximately five thousand.

1. J. S. Buckingham: *Travels in Palestine*, chap. xxi, p. 365.
2. Z.D.P.V., Vol. XXV, p. 143.

EXCAVATIONS OF TWO PALAEOLITHIC CAVES IN GALILEE

With Plates III, IV, V

1. In a work published in 1917,[1] Dr. Paul Karge, of Munster University, gathered together all the material then available for the study of the Stone Age in Palestine, adding the results of his own researches during the years 1909-1911. From this work it is clear that while Palestine is exceptionally rich in remains, both of the Palaeolithic and Neolithic Ages, but little had been done towards the investigation of these early cultures. A number of competent observers had examined surface deposits of worked flints, diligently collected flint implements scattered about the valleys, plains and plateaux, and minutely compared them with type series from other parts of the world. But no single cave or rock shelter had been systematically excavated. It would be unfair, however, to belittle the work done by these pioneer investigators. In view of the circumstances under which their researches were carried out, excavations were for them entirely out of the question; their services were inestimable in calling attention to the importance of the Palaeolithic remains in this country, and they were able to establish the fact that primitive man in Palestine had passed through phases of culture analagous in their broad outlines to those of Western Europe, the only area in the world where the Palaeolithic Age has been exhaustively studied. At the same time, it is clear that, without excavation, no entirely satisfactory material for comparison could be obtained. Flint implements found on the surface may be of almost any date from early Palaeolithic to Bronze Age and, indeed, remains of most diverse periods are often found together in a bewildering medley. Patination is so uncertain and variable a quality that little reliance can be placed upon it as evidence of relative age. Hence a surface implement can only be ascribed to a given culture phase on grounds of its analogy to European types. This method, however, involves the assumption that, down to the minutest details of flint working, the development of culture in Palestine has passed through the stages established for Western Europe.

Furthermore, by excavation alone can evidence be obtained of the fauna associated with a given culture from which its geological horizon, and the climatic conditions of the period can be established. Lastly and most important of all, it is only in deposits deeply buried and protected from the disintegrating effects of the atmosphere that there is any likelihood of finding remains of primitive man himself, remains which are incomparably rarer and more important than the products of his handicraft.

It would even seem that this system of investigation without excavation has produced a definitely distorted view of Palestinian prehistory. Since the open-air stations alone were sought for and investigated, remains of the Early Palaeolithic and Neolithic Ages were found in abundance, for in the first of these periods man roamed the countryside with no fixed abode, in the second he lived in fortified villages in the open plain. During the intervening period of the middle and late Palaeolithic however, he lived almost exclusively in caves and rock shelters, where since they are protected from winds and rain the rate of accumulation of debris is rapid; hence remains of these cultures were very rarely found and it was imagined that in those days Palestine was but sparsely populated.

Karge found and investigated a late Palaeolithic cave site, the Mugharet-el-Abed, near Dibl in Northern Galilee, but through lack of time was unable to do more than collect a number of implements from the surface layer and could undertake no excavations. This was the only authentic Late Palaeolithic site which he was able to record from Palestine. To remedy these defects in our knowledge and to establish a firm basis for the study of the earliest human period in Palestine, the School has this summer carried out the first of a series of excavations by means of which it is hoped eventually to reconstruct the succession of Palaeolithic cultures in Palestine in as much detail as has now been done in Western Europe. The results would seem to be sufficiently important to necessitate a special publication which it is hoped will appear next spring; the present account is, therefore, intended merely as a preliminary notice and summary.

It was decided to confine the investigations of the first season to the hills and valleys which border the plain of Genesareth on the North and West. This small but fertile plain situated on the Western shores of the Lake of Galilee, some six miles N.W. of Tiberias, is exceptionally well suited to the requirements of primitive man. The Lake and streams offer, even to-day, an

1. 'Rephaim. Die vorgeschichtliche Kultur Palestinas und Phöniziens,' Paderborn, 1917.

unlimited supply of fish; the hills, no doubt, provided animals of the chase, and caves abound in the limestone cliffs of the Wadis.[1] Again, at this point, two important migration routes intersect, the road from the high plateaux of Asia Minor to Egypt, following the valleys of the Orontes and the Jordan, and the route from Central Asia, by way of the Syrian Desert to the Mediterranean. Tribes migrating westwards from the valleys of the Tigris and Euphrates would first find habitable land around the shores of the Sea of Galilee. It is at least certain that the region was well populated at an early period, as is shown by the exceptionally large number of Megalithic constructions to be found in the vicinity, of which the fortified hill, Kurin Hattin, the prehistoric village at Shegerat el Mubarakat, and the necropolis of Kerazeh, which contains more than 300 dolmens, are typical examples.

Of the valleys which abutt on the plain of Genesareth, perhaps the most important is the Wadi el Amud (Pl. V*c*). This deep gorge has been cut out of the limestone hills by a stream which arises some miles to the north, in the vicinity of Safed, and eventually empties itself into the Lake of Galilee. Even in this age of comparative desiccation this stream seldom dries up, and in earlier times, to judge from the depth of the ravine, it must have formed a river of a considerable importance. At all events it is clear that any prehistoric community settling in this Wadi would never have experienced a shortage of water.

The Wadi el Amud is further of importance as a trade and migration route between the Mediterranean coast and Trans-Jordania. Formerly the regular caravan road from Acre to Damascus passed along the plateau flanking the gorge and descended into the plain at the entrance to the Wadi, and there is no reason why it should not have been one of the principal routes followed by wandering tribes from the very earliest times. In fact everything seemed to indicate that this region was one of the most promising fields for prehistoric research which Palestine could offer.

2. A short distance beyond the point where the gorge of the Wadi Amud comes to an abrupt end there is a massive limestone bluff among the hills which form the northern boundary of the plain of Genesareth. This cliff lies some 100 m. distance from the East bank of the stream. In its face there is a group of three small caves or rock shelters facing southward and well sheltered from the prevailing winds and rain (Pl. V*d*). These caves are known locally as the Mugharet el Emireh. Taking them in order, West to East, the dimensions are as follows: $8 \times 5{\cdot}70$ m., $5{\cdot}70 \times 3$ m., and $2{\cdot}70 \times 2{\cdot}70$ m. Of these the last is too small to have been at any time inhabited, and the deposits on the floor were but 10 cm. thick and entirely barren. A well-worked cup-mark to the east of the entrance shows that the caves were frequented in the Neolithic or Early Bronze Age. The whole group is approached by a short but steep slope forming a terrace, at the foot of which are traces of what may once have been a rough encircling wall.

The middle cave of the three, though smaller than that to the West is better protected from the weather and more suited to permanent habitation. A preliminary investigation in 1923 showed that a natural corridor opened out of the back of this cave. Though this corridor was filled nearly to the roof with debris it was possible to penetrate a distance of some 5 metres, where a number of worked flints, hammer stones and nuclei were found lying on the surface.

Excavations were begun at the end of April, 1925, by digging a trench across the floor of the cave and continuing it out on to the terrace. This trench showed that the area inside the cave had been much disturbed and Arab and Roman Potsherds were found in considerable quantities down to the original rock floor. This, and the fact that flint implements of Palaeolithic type were found in the surface soil, on the terrace outside the cave, would seem to indicate that the early deposits had at some time been cleared out to make room for later occupants.

The area of disturbance, however, did not extend beyond the entrance to the cave. Outside the entrance, for a distance of some 6 m. down the slope of the terrace, was a homogeneous layer of dry clayey soil resting on the original bedrock. Resting on this clayey layer were large blocks of fallen rock, and above these again a crust deposit containing potsherds of all periods from Neolithic to Mediaeval Arab.

The excavation of this clayey deposit showed it to be an undisturbed Palaeolithic level. Pottery was here entirely absent, but flint implements, cores, waste chips and hammer stones were abundant. A selection of implements is shown in Pl. III*a*; the main types represented are end scrapers, blades frequently showing marks of use, and in some cases retouched along one edge, small circular scrapers, and carefully worked points on a narrow flake. Particularly characteristic are a number of extremely small points, blades and end scrapers. These are not the geometric pigmy points of the typical Tardenoisian culture of Europe; indeed, they differ little from the larger implements found with them except in their minute size and the consequent delicacy of workmanship. In general the culture of Mugharet el Emireh is clearly ascribable to a late phase

1. Valleys.

of the Palaeolithic, corresponding apparently to the Aurignacian and Magdalenian cultures of Europe. It would be rash to make more exact comparisons without reference to actual specimens of European types which are not here available. In addition the layer contained a number of pieces of pointed and rounded bone, and a large quantity of fragments of unworked bone from which it will be possible to determine the associated fauna.

The rock corridor, when cleared, was found to contain flint and bone work in every way similar to the implements described above, and obviously formed part of the area of Palaeolithic occupation. The deposits on the floor of the larger shelter, to the West, were much shallower than those in the main cave, but here again, below the crust deposits, a clayey layer was found containing implements of a late Palaeolithic type. Three trenches dug on the lower slope of the terrace showed that the occupation area did not extend as far as this, though a certain number of worked flints and discarded implements were found, consequently it did not seem necessary to clear this area completely.

3. Some 150 yards from the entrance to the gorge of the Wadi, high up in the cliffs to the North of the stream is the Mugharet el Zuttiyeh ; this is the largest and most regular cave in the neighbourhood ; it is 26 m. in depth, 20 m. broad and its vaulted roof reaches a height of over 60 feet above the level of the modern floor deposits (Pl. V*a*, *b*).

A preliminary trench revealed, at a depth of 1·20 m., a layer of large blocks of fallen rock ; this layer averaged about 15 cm. in thickness and covered a layer containing flints of an early type, including *coups-de-poing*. This flint layer which extended down to bed-rock was about 90 cm. thick towards the front of the cave. Towards the back the layer ended abruptly at 12 m. from the entrance where the rock sloped steeply upwards. Outside the entrance the flint layer and the superposed deposits diminished rapidly and finally disappeared. As a result of this preliminary examination a complete excavation was decided upon.

The deposits above the layer of fallen rock proved to contain clearly defined traces of occupation at various levels, associated with potsherds ranging in date from Neolithic to Mediaeval Arab times. The earth which composed these layers was uniformly dark brown to blackish in colour, and fragments of bone which it contained were for the most part extremely soft and in a decomposing state (cf. Pl. V*b*).

Below the layer of fallen rock the deposits showed an entirely different character, and had obviously been formed under entirely different conditions. They were composed of a reddish alluvial soil among which were a number of large blocks of fallen rock and small stones. This layer contained a very large number of well-worked flint implements, as well as a considerable quantity of bone; this was all extremely hard, gave out a metallic sound when tapped and was mostly of a dull reddish colour. There were also masses of a hard conglomerate composed of burnt organic matter. These masses had every appearance of being the refuse of prehistoric hearths, hardened subsequently by some atmospheric change which may well have occasioned also the fall of rock from the roof and led to the abandonment of the cave as a place of habitation.

Towards the centre of the cave, not very far from the entrance, fragments of a human skull were found beneath two large blocks of fallen rock which must have protected them in some way and thus preserved them from disintegration. The fragments consist of practically the whole of the frontal bone, the right zygomatic bone and the right half of the sphenoid bone. The frontal bone, which has not been forcibly broken off from the rest of the skull, but separated along the line of the suture, is extremely thick, and shows the enormous development of the supra-orbital ridges characteristic of the Neanderthal skulls of Europe. The bone is in the same hard state, and of the same reddish colour as the rest of the bone found in this layer. The front view and profile are illustrated on Pl. IV. The interest and importance of this first specimen of primitive man to come to light in Palestine is considerably enhanced by the fact that it was found in a well-defined level of Palaeolothic occupation containing flints closely corresponding to those of the Mousterian culture invariably associated with Neanderthal man in Europe. A selection of implements from the cave is shown in Pl. III*b*, the predominant types are *coups-de-poing* for the most part, of small size and carefully worked, large side scrapers, very finely retouched Mousterian points, long blades and trimmed flakes retouched on the upper face along one edge. The presence of *coups-de-poing* in considerable numbers would seem to indicate that the culture is to be ascribed to an early phase of the Mousterian, or should even perhaps be regarded as a transition stage from Early to Middle Palaeolithic. Too little is yet known of the succession of Palaeolithic cultures in Palestine to form definite conclusions as yet, but careful comparison with European types will, doubtless, throw light on the subject.

F. T-P.

ADDENDUM: NOTE ON THE GALILEE SKULL

By Sir Arthur Keith

I have just finished an examination of the fossil cranial fragments found by Mr. Turville-Petre and they are, as he has already concluded, parts of an individual of the Neanderthal species. The frontal bone is almost entire, the right malar bone is intact and has adherent to it part of the upper jaw; the middle part of the floor of the skull is represented by almost the entire right half of the sphenoid bone. All of these bones are deeply mineralized; they are as old as the stratum in which they were found. The sutural edges are clearly marked and fit perfectly together so that it is possible to build up a large part of the skull. All of these bones—frontal, malar and sphenoid—show the markings which distinguish Neanderthal man from all other species. The skull in question is that of a young man, probably not more than 25 years of age and shows certain traces of healed injuries (or disease). This is the first time the remains of Neanderthal man have been found outside Europe. The Galilee skull represents a new variety of the Neanderthal species—one with a narrow lofty head. The brain volume is estimated at 1400 c.c. or a little over, being smaller than is usually the case in the specimens of Neanderthal man found in Europe. The skull bones are not thick—being in this respect like the skull bones of modern man. The eyebrow ridges have the massive torus-form, see in 'Typical Neanderthal Skulls.'

NOTES AND NEWS

Excavations. Jerusalem.—The work of the Palestine Exploration Fund on the site of the City of David has been closed down for the summer. The rampart of the Jebusite period and the adjoining tower attributable to the time of David and Solomon, on the eastern scarp, disclosed in the course of their work, are the most interesting and striking remains of the early Iron Age in Palestine. The Jewish Palestine Exploration Society has been occupied in clearing sections of the north wall formerly described by Robinson and others. The pre-Byzantine date of this wall is attested, and in some respects it conforms with the descriptions of the wall of Agrippa given by Josephus. Light is still required, however, upon several technical points before its precise character and origin can be asserted with confidence.

Beisan.—The Philadelphia Expedition, organized by Dr. Gordon, will resume work this autumn under the direction of Mr. Alan Rowe, who has worked there already under Dr. Clarence Fisher, and subsequently at Gizeh under Dr. Reisner, and will now have Mr. G. FitzGerald as his second in command.

Megiddo.—An expedition organized by Professor Breasted, on behalf of the Oriental Institute of Chicago, will commence work this autumn under the field direction of Dr. Clarence Fisher. This famous site is practically intact, and in the light of modern archaeological information very notable results may be anticipated.

Tanturah (Dora).—The medical authorities have been supervising the anti-malarial measures adopted by local concessionaires, and report that this site will be available for excavation in the spring of 1926.

The preliminary investigations of the School have shown the historical importance of the site, but its excavation on anything but a small scale is at present beyond the School's resources, notwithstanding a further donation of £100 by the Baron Edmond de Rothschild.

Conservation.—Measures have been taken by the Department of Antiquities for the protection of the monuments of Jerash, the Citadel of Jerusalem and the 'Tower of David' on the site of Ophel. In addition, authority has been given for the experimental resetting of fallen members in the N.E. corner of the synagogue of Tell Hum (Capernaum); and it is understood that measures are to be taken to protect the remains at Kerazi (Chorazim) and other synagogues in Galilee.

The School entertained Sir Herbert Samuel, Vice-President, and Lady Samuel, previous to their leaving Palestine at the close of his term of office as First High Commissioner. About 200 guests attended the Reception in his honour. The Director presented his Excellency with a souvenir album of photographs of the monuments and antiquities of Palestine which they had visited together during their five years of office.

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